

1           1.    A computer implemented method for synchronizing  
2   a first database located on a first computer and a second  
3   database located on a second computer, the method  
4   comprising:

5           determining, at the first computer, whether a record  
6   of the first database has been changed or added since a  
7   previous synchronization, using a first history file located  
8   on the first computer comprising records representative of  
9   records of the first database at the completion of the  
10   previous synchronization;

11          if the record of the first database has not been  
12   changed or added since the previous synchronization, sending  
13   from the first computer to the second computer information  
14   which the second computer uses to identify the record of the  
15   first database to be unchanged.

1           2.    The computer implemented method of claim 1  
2   wherein a second history file located on the second computer  
3   contains records representative of records of the first  
4   database at the completion of the previous synchronization,  
5   wherein one of the representative records represents the  
6   record of the first database determined to be unchanged, and  
7   the method further comprises performing a synchronization,  
8   at the second computer, of the second and first databases  
9   using the one of the representative records.

1           3.    The computer implemented method of claim 2  
2   wherein the information sent from the first computer to the  
3   second computer is used to locate the one of the  
4   representative records in the second history file.

1           4. The computer implemented method of claim 3  
2 wherein the second history file stores information in  
3 relation to the representative records and wherein the one  
4 of the representative records in the second history file can  
5 be identified from the stored information.

1           5. The computer implemented method of claim 4  
2 wherein the information sent from the first computer to the  
3 second computer comprises information that matches the  
4 information stored in relation to the one of the  
5 representative records in the second history files.

1           6. The computer implemented method of claim 1  
2 wherein the information comprises information identifying  
3 records other than the unchanged record.

1           7. The computer implemented method of claim 1  
2 wherein the information comprises information identifying  
3 the unchanged record.

1           8. The computer implemented method of claim 1  
2 wherein the information comprises information identifying  
3 the deleted records.

1           9. The computer implemented method of claim 1  
2 wherein the information comprise information identifying the  
3 added records.

1           10. The computer implemented method of claim 1  
2 wherein the information comprises a code, the code being  
3 based on at least a portion of the content of the record of  
4 the first database.

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1           11. The computer implemented method of claim 10  
2 wherein the code comprises a hash number computed based on  
3 at least a portion of the content of the record of the first  
4 database.

1           12. The computer implemented method of claim 10  
2 wherein the information further comprises a first plurality  
3 of records of the first database identified as "changed or  
4 added", the method further comprises using said information  
5 to indentify a plurality of the first database as "deleted  
6 or changed" since the previous synchronization.

1           13. The computer implemented method of claim 1  
2 wherein the information comprises a code uniquely  
3 identifying the records of the first database.

1           14. The computer implemented method of claim 13  
2 wherein the unique identification code is assigned by the  
3 first database to the records of the first database.

1           15. The computer implemented method of claim 14  
2 wherein the information further comprising a first plurality  
3 of the records of the first database identified as  
4 "changed", a second plurality of the records of the first  
5 database identified as added, and information identifying a  
6 third plurality of records of the first database as  
7 "deleted".

FILED OCT 10 1990

1           16. A computer implemented method of identifying a  
2 record of a database stored on a first computer to a second  
3 computer comprising:  
4           reading a record of the database;  
5           assigning a code to the record of the database, the  
6 code being based on at least a portion of the content of the  
7 record of the first database;  
8           transmitting the code to the second computer to  
9 identify the record to the second computer.

1           17. The computer implemented method of claim 16  
2 wherein the code comprises a hash number computed based on  
3 at least a portion of the content of the record of the first  
4 database.

1           18. A computer program, resident on a computer  
2 readable medium for synchronizing a first database located  
3 on a first computer and a second database located on a  
4 second computer, comprising instructions for:  
5           determining, at the first computer, whether a record  
6 of the first database has been changed or added since a  
7 previous synchronization, using a first history file located  
8 on the first computer comprising records representative of  
9 records of the first database at the completion of the  
10 previous synchronization;

11           if the record of the first database has not been  
12 changed or added since the previous synchronization, sending  
13 from the first computer to the second computer information  
14 which the second computer uses to identify the record of the  
15 first database to be unchanged.

1           19. The computer program of claim 18 wherein a  
2 second history file located on the second computer contains  
3 records representative of records of the first database at  
4 the completion of the previous synchronization; wherein one  
5 of the representative records represents the record of the  
6 first database determined to be unchanged, and the program  
7 further comprising instructions for performing a  
8 synchronization, at the second computer, of the second and  
9 first databases using the one of the representative records.

1           20. The computer program of claim 19 wherein the  
2 information sent from the first computer to the second  
3 computer is used to locate the one of the representative  
4 records in the second history file.

1           21. The computer program of claim 20 wherein the  
2 second history file stores information in relation to the  
3 representative records and wherein the one of the  
4 representative records in the second history file can be  
5 identified from the stored information.

1           22. The computer program of claim 21 wherein the  
2 information sent from the first computer to the second  
3 computer comprises information that matches the information  
4 stored in relation to the one of the representative records  
5 in the second history files.

1           23. The computer program of claim 18 wherein the  
2 information comprises information identifying records other  
3 than the unchanged record.

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1           24. The computer program of claim 18 wherein the  
2 information comprises information identifying the unchanged  
3 records.

1           25. The computer program of claim 18 wherein the  
2 information comprises information identifying the deleted  
3 records.

1           26. The computer program of claim 18 wherein the  
2 information comprise information identifying the added  
3 records.

1           27. The computer program of claim 18 wherein the  
2 information comprises a code, the code being based on at  
3 least a portion of the content of the record of the first  
4 database.

1           28. The computer program of claim 27 wherein the  
2 code comprises a hash number computed based on at least a  
3 portion of the content of the record of the first database.

1           29. The computer program of claim 27 wherein the  
2 information further comprises a first plurality of records  
3 of the first database identified as "changed or added", the  
4 program further comprising instructions for using said  
5 information to indentify a plurality of the first database  
6 as "deleted or changed" since a previous synchronization.

1           30. The computer program of claim 18 wherein the  
2 information comprises a code uniquely identifying the record  
3 of the first database.

1           31. The computer program of claim 30 wherein the  
2 unique identification code is assigned by the first database  
3 to the record of the first database.

1           32. The computer program of claim 30 wherein the  
2 information further comprises a first plurality of the  
3 records of the first database identified as "changed", a  
4 second plurality of the records of the first database  
5 identified as added, and information identifying a third  
6 plurality of records of the first database as "deleted".

1           33. A computer program, resident on a computer  
2 readable medium, for identifying a record of a database  
3 stored on a first computer to a second computer comprising  
4 instructions for:  
5           reading a record of the database;  
6           assigning a code to the record of the database, the  
7 code being based on at least a portion of the content of the  
8 record of the first database;  
9           transmitting the code to the second computer to  
10 identify the record to the second computer.

1           34. The computer program of claim 33 wherein the  
2 code comprises a hash number computed based on at least a  
3 portion of the content of the record of the first database.